FINSO Tech: Fardad Intelligent New Smart Organization

Integrated electrical, instrumentation, and automation solutions for heavy industries worldwide.

About Us

Fardad Smart Industry stands at the forefront of industrial automation, delivering comprehensive engineering solutions that transform heavy industries through intelligent control systems. We specialize in the complete lifecycle of automation projects—from initial design and sophisticated programming to final commissioning—utilizing advanced **Siemens PLC/DCS platforms** and state-of-the-art monitoring technologies.

Our expertise spans steel production, copper refining, and rolling mill operations, where precision and reliability are paramount. We combine technical excellence with hands-on field experience to ensure seamless integration and optimal performance.

specialize in industrial automation, with hands-on experience in assembling and installing electrical panels, routing cables, energizing transformers, and commissioning equipment.

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Core Expertise

Industrial Automation & PLC Programming

Advanced programming and system integration for seamless production control

Siemens DCS (PCS7) Systems

Complete design and implementation of distributed control architectures

HMI & SCADA Development

Intuitive operator interfaces for real-time monitoring and control

MV Installation & Commissioning
Hands-on experience in installation and commissioning of MV electrical systems, including power transformers and MV switchgear.
Strong on-site execution capability covering equipment installation, cable termination, testing, energization, and troubleshooting in industrial environments.

Drive Configuration

Expert setup of ABB and Siemens drives with Profibus communication

LV Motor Systems
Practical experience with LV motors including installation, alignment, termination, testing, and commissioning.
Solid understanding of motor operation in industrial applications, with experience working alongside soft starters and VFD-driven motor systems.

Control Panel Design

Custom electrical panel engineering and assembly for demanding environments

Field Commissioning

On-site expertise in steel, copper, and rolling mill operations

AI Integration

Cutting-edge artificial intelligence for process optimization and predictive maintenance

Our Leadership Team

Meet the experienced professionals driving innovation and excellence in industrial automation.

Alireza Rahaei

CEO & Project Manager

Strategic leadership and project oversight ensuring delivery excellence

Amir Hosein Moaiedi

Technical Office Manager

Technical design, documentation, and engineering standards

Sara Abedifatd

Internal Manager

Operational excellence and team coordination across all departments

Anis Reza Ghilian

Electrical Manager

Mobarakeh Steel: New Pickling Line Instrumentation and Automation

Client: Mobarakeh Steel Company, Isfahan

Comprehensive automation solution for a critical steel processing facility, delivered with zero production disruption. Our team executed complete control system integration including:

01

PLC Programming & HMI Design

Intuitive operator interfaces for seamless production control

02

Remote I/O Integration , Cabe Routing and Termination

New control panels assembled and commissioned

03

Profibus Network Architecture and Commissioning

Industrial-grade communication infrastructure

04

ABB Drive Configuration

Optimized motor control with Profibus connectivity

05

Process Optimization

Precision tuning of temperature, pressure, and control loops

06

Full Commissioning

IO checks, cold testing, and successful production handover

Sar Cheshmeh Copper: Network Expansion Without Downtime

Client: Sar Cheshmeh Copper Complex, Kerman

A technically demanding project requiring live system modifications on a redundant S7-400H architecture—completed with **zero production interruption**.

Live Network Programming

Expanded Profibus networks on redundant S7-400H system during active refinery operations

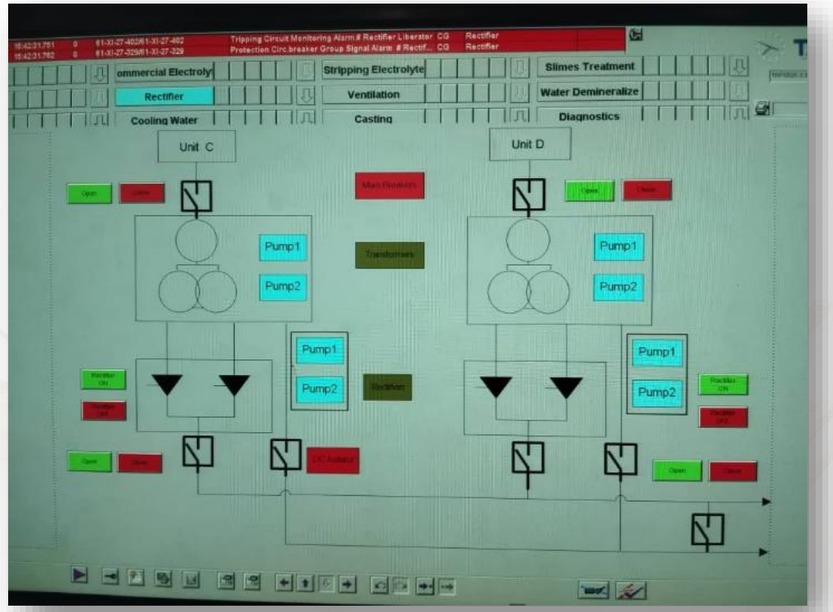
Field Device Integration

Connected rectifiers and field instruments through advanced Profibus architecture for real-time monitoring

DCS Communication Bridge

Established seamless data exchange between S7-1500 PLCs and existing DCS infrastructure

Software Platforms: Siemens PCS7 V7.0 and TIA Portal V16 for comprehensive system integration



Mes Sarcheshmeh: Packaging Line Transformation

Client: Mes Sarcheshmeh Copper Complex, Kerman

Complete modernization of automated packaging systems, delivering measurable improvements in throughput and product quality. Our comprehensive approach included:

1

Control Logic Development

Created detailed flowcharts and modular programming architecture for simplified maintenance

2

System Reprogramming

Full PLC code optimization with SEW drive integration and commissioning

3

Performance Enhancement

Synchronized machine speed with production line for maximum efficiency

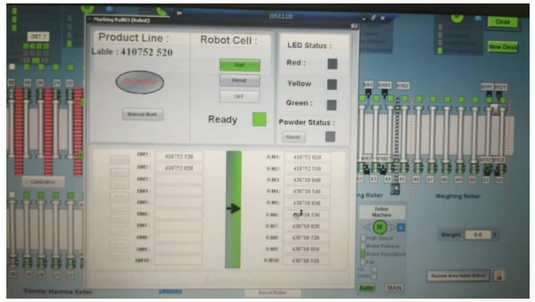
4

Business Impact

Dramatically improved packaging quality, increasing product value and market competitiveness

Mobarakeh Steel: Intelligent Marking System

Client: Mobarakeh Steel Company (MSC), Production Line No. 5



Advanced robotic marking system for steel slab identification, featuring live programming modifications during continuous production operations.

Siemens Drive Integration

Optimized motion control for precision marking and enhanced reliability

CCM Control System Program Modification

Major modifications to panels, PLC logic, and field wiring for improved stability

S71500F Controller Programming

New algorithms delivering superior accuracy and faster cycle times

Zero Downtime

Live modifications during active production

Designed modern HMI interface providing operators with intuitive monitoring, advanced diagnostics, and simplified machine control.

Bardsir Steel: Power Distribution Intelligence

Client: Bardsir Steel Plant – PDCS Implementation

Engineered and deployed a sophisticated Power Distribution Control System (PDCS) for monitoring and managing electrical distribution across Dirty and Clean substations. This mission-critical system ensures continuous power reliability for steel production operations.

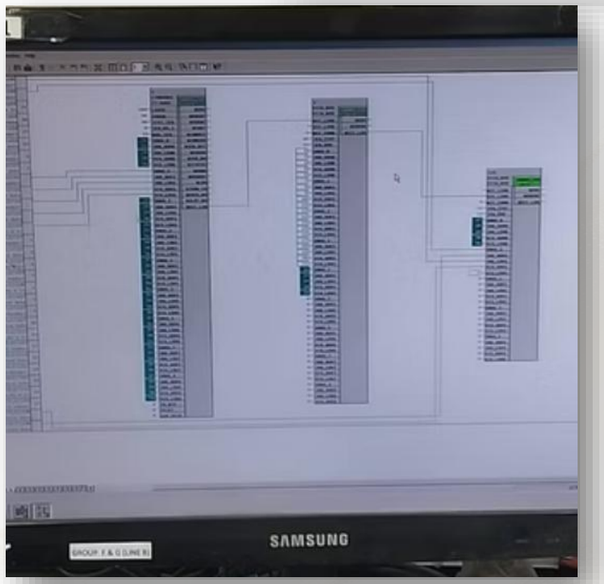
System Architecture

Redundant Siemens S7-400 PLCs

Redundant control architecture for maximum reliability and process continuity

Industrial PC Monitoring

Two fully redundant PCs with automatic failover for uninterrupted system supervision



Modbus RTU with License

Cabe Routing and Network Commissioning

Partner: Designed and manufactured by Fars Scat Industrial Company under Sisco contract

Hadid Al-Ṣolb: Complete Steelmaking Plant Commissioning (Iraq)

Full-scale installation, and commissioning of an integrated steelmaking facility featuring state-of-the-art Danieli equipment and comprehensive control systems.

1

Electric Arc Furnace

70-ton Danieli EAF with advanced power and control systems

2

Ladle Furnace

LF unit for secondary metallurgy and temperature control

3

Continuous Casting

4-strand CCM for high-quality steel production

4

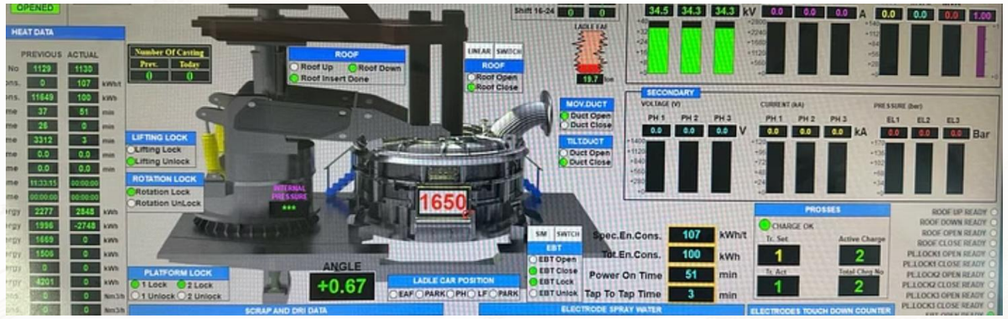
Oxygen Plant

Complete electrical, instrumentation, and control infrastructure

5

Utility Systems

Site-wide transformer energization and support systems



Technical Execution: Comprehensive IO checks, cable routing and termination, cold and hot testing protocols, and collaborative programming with UB Holding (Turkey) for seamless system integration.

Zarand Steel Plant Commissioning

140-Ton Converter – Steel Plant

Finso Tech provided comprehensive commissioning services for a critical 140-ton steel converter, integrating advanced control systems to ensure seamless operation and precision steel production.

1 Motor Synchronization

Synchronized 4 converter motors using Siemens S120 drives for precise movement control.

2 Converter Programming & Commissioning

Full programming and commissioning of the converter via Siemens PCS7 software, supporting two redundant servers and 10 client systems.

3 Lance Automation

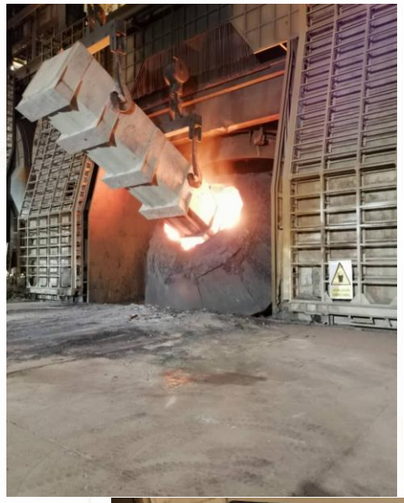
Programming and commissioning of 4 converter lances, integrating S120 drives and PCS7 software for optimized operation.

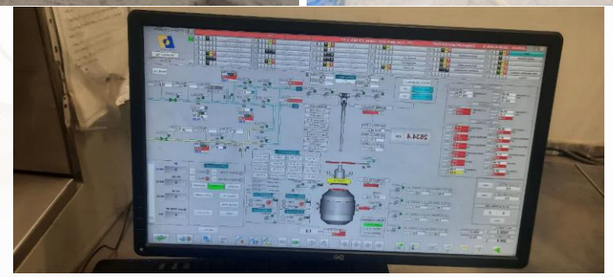
4 OG Unit Automation

Commissioning of the Oxygen Gas (OG) unit in 2 converters with complete process automation using PCS7 software.

5 Rigorous Testing

Conducted extensive IO checks, cold testing, and hot testing to validate system integrity and performance.





6-Line Continuous Casting – 2 Casting Stations

Zarand Steel Plant Commissioning

Comprehensive automation and commissioning of a dual-station, six-line continuous casting facility. This project optimized the entire casting process, ensuring precision, reliability, and enhanced steel quality.

Integrated PLC & Drive Systems

Developed PLC programming for the 6-line system and common section, along with configuring 38 Siemens G120 drives for precise control.

Advanced Network Infrastructure

Implemented a redundant monitoring system and high-speed fiber optic ring network for robust data exchange and system stability.

EMS & Magnetic Stirrer Commissioning

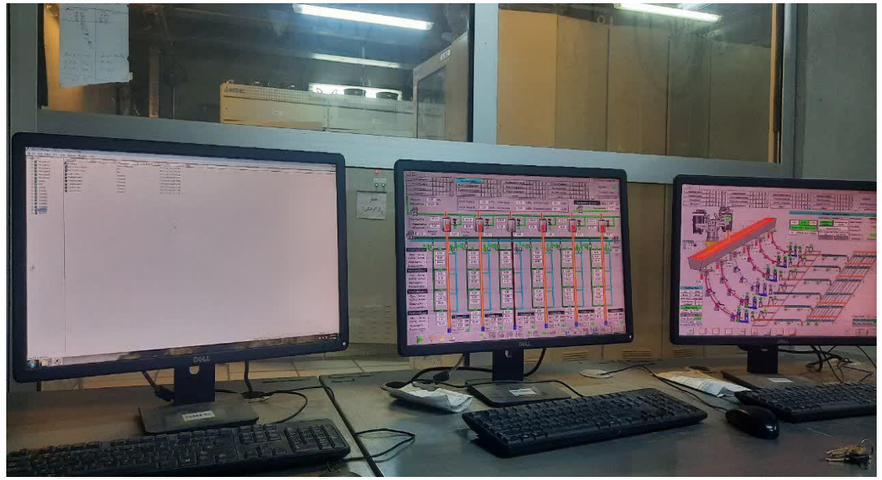
Full commissioning of the Electrical and Magnetic Stirring (EMS) control system, including various operating modes and extensive testing.

Automatic Melt Level Control

Commissioned and optimized the RAMON automatic melt level control system in casting molds, ensuring consistent steel quality.

Precision Mechanical & Electrical Execution

Automated mechanisms, managed intricate cabling, and conducted thorough signal checking for seamless operation and rapid deployment.



Zarand Steel Plant Commissioning

CCM Automation

Finso Tech delivered essential commissioning services for the Zarand Steel Plant, focusing on optimizing the control systems for critical auxiliary equipment like pumps, fans, and water regulation systems to ensure reliable and efficient plant operations.

1 Soft Starter Optimization

Configured and integrated soft starters for various pumps and fans, ensuring smooth motor startup and controlled operation to reduce mechanical stress and energy consumption.

2 Precision Water Control

Implemented advanced control valves for process water (QW) in both temperature and flow modes, critical for maintaining optimal conditions within the steelmaking process.

3 Comprehensive Cold Testing

Conducted thorough cold testing of all configured systems, verifying electrical connections, logic, and operational sequences before live production.

4 Wireless Weighing System

Integrated a state-of-the-art wireless weighing system for accurate and real-time measurement of materials, enhancing overall process control and inventory management.

5 Optimized Valve Actuation

Fine-tuned control algorithms to reduce unnecessary valve movement, extending the lifespan of actuators and improving the stability of process parameters.

Zarand Steel Plant Commissioning

CCM Automation

Finso Tech implemented advanced hydraulic automation solutions at the Zarand Steel Plant, ensuring precise control and optimal performance for critical steelmaking processes. Our commissioning focused on enhancing operational stability and efficiency.

Oscillation Range Adjustment

Precise adjustment and synchronization of hydraulic oscillation ranges, dynamically linked to casting speed for optimal steel quality.

Drag Speed Difference Correction

Calibration and correction of drag speed differences across hydraulic systems to maintain consistent material flow and prevent defects.

Operating Hours Integration

Consideration of operational hours in hydraulic system programming to optimize maintenance schedules and extend equipment lifespan.

Load Oscillation Testing

Rigorous testing of hydraulic load oscillation movements to ensure stability, reliability, and safety under varying operational demands.

Thermal Camera Cutting System

Commissioning of an automated cutting system integrated with thermal cameras for precise, real-time control based on material temperature.

Zarand Steel Plant Commissioning

Ladle Furnace (LF)

Finso Tech played a crucial role in the precise commissioning and optimization of the Ladle Furnace at Zarand Steel Plant, ensuring advanced metallurgical control and operational efficiency.

LF Arc System Optimization

Collaborated to commission and fine-tune the Siemens LF arc system for superior performance and stability.

Material Handling System

Commissioned the integrated Material Handling System (MHS) to ensure smooth and efficient material flow.

Critical Component Inspection

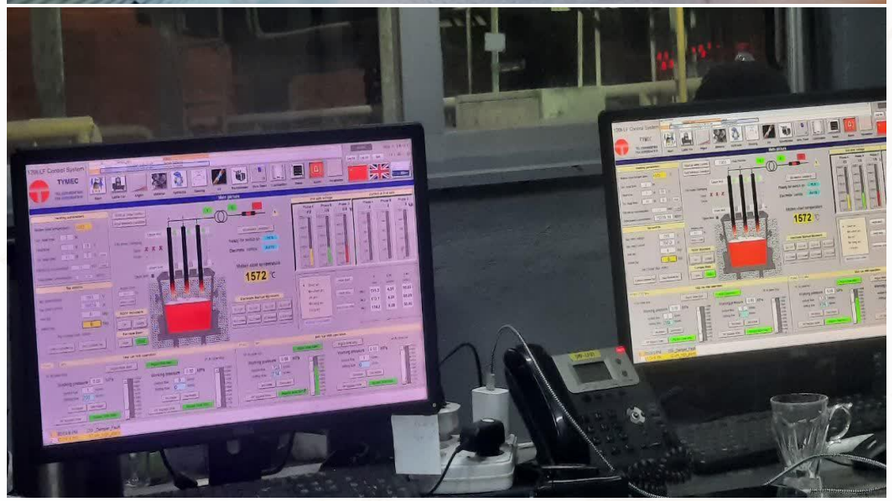
Thoroughly inspected and repaired busbars, connections, and cooling water cables for enhanced reliability.

Transformer Condition Analysis

Reviewed transformer conditions and analyzed test results to optimize power delivery and efficiency.

LF Hydraulic System Automation

Successfully commissioned and automated the LF hydraulic system for precise control of furnace movements.



Zarand Steel Plant Commissioning

Oxygen Plant & Water Supply

Finso Tech provided critical commissioning and automation services for Zarand Steel Plant's essential auxiliary units, ensuring seamless integration and efficient operation for both the Oxygen Plant and Water Supply Unit.

Oxygen Plant Optimization

Collaborated in commissioning and troubleshooting the Oxygen unit, optimizing performance and ensuring stable operation through advanced Siemens PCS7 software control.

Integrated Water Supply

Executed comprehensive testing and commissioning of all pumps and valves, implementing automation solutions to integrate the water supply with the continuous casting unit.

Siemens PCS7 distributed control system software was consistently utilized across all these critical plant automation projects.

Bardsir Steel Plant Commissioning

Electric Arc Furnace (EAF)

Finso Tech played a key role in the commissioning and optimization of the Bardsir Steel Plant's Electric Arc Furnace (EAF) and its associated Material Handling System, driving towards efficient and high-capacity steel production.

EAF Performance Optimization

Collaborated on commissioning and fine-tuning the 140-ton EAF, equipped with a 140 MVA transformer and Arcos system, to achieve its full nominal production capacity.

Material Handling System

Provided comprehensive commissioning for the Material Handling System (MHS), ensuring seamless and reliable delivery of raw materials to the EAF.

Bardsir Steel Plant Commissioning

6-Line Continuous Casting – Danieli

Finso Tech provided crucial support for the Danieli 6-line continuous casting station at Bardsir Steel Plant, ensuring optimized operations and addressing complex electrical, automation, and instrumentation challenges for enhanced performance.

Comprehensive Troubleshooting

Expertly resolved electrical, automation, and instrumentation issues across the 6-line casting station to maintain continuous and efficient production.

Billet Feeder Program Modification

Implemented critical modifications to the Danieli program, enabling seamless operation of the casting station without the need for a billet feeder.

Operational & Maintenance Collaboration

Collaborated closely with plant personnel on operational procedures and maintenance protocols, fostering knowledge transfer and long-term stability.

Bardsir Steel Plant Commissioning

Ladle Furnace (LF) & Oxygen Plant

Ladle Furnace (LF) Collaboration

Finso Tech partnered with Bardsir Steel Plant to ensure efficient commissioning, optimized operation, and robust maintenance for their critical Ladle Furnace unit.

- **Seamless LF Unit Commissioning:** Close collaboration to integrate and start up the LF unit effectively.
- **Arc System Optimization:** Fine-tuned the LF arc system and associated Arcos equipment for peak performance and energy efficiency.
- **Operational & Maintenance Support:** Provided ongoing expertise for reliable operation and proactive maintenance, extending equipment lifespan.

Oxygen Plant Commissioning

We delivered expert commissioning and operational support for the Bardsir Steel Plant's Oxygen Plant, crucial for stable and efficient steel production.

- **Comprehensive OP Setup:** Managed the full commissioning and operational configuration of the Oxygen Plant.
- **Advanced PCS7 Control:** Collaborated on commissioning compressors and the entire Oxygen Plant (OP) utilizing Siemens PCS7 software for precise control.

Khuzestan Steel Plant

PDCS System Implementation

Finso Tech delivered a complex PDCS (Process Data Control System) implementation at Khuzestan Steel Plant, integrating critical Siemens components to enhance plant control and data acquisition.

Siemens Relay Integration

Seamless integration of Siemens Relays into the control system via the Modbus RTU network, enabling robust data monitoring from various plant sections.

S7-400 Control System Connectivity

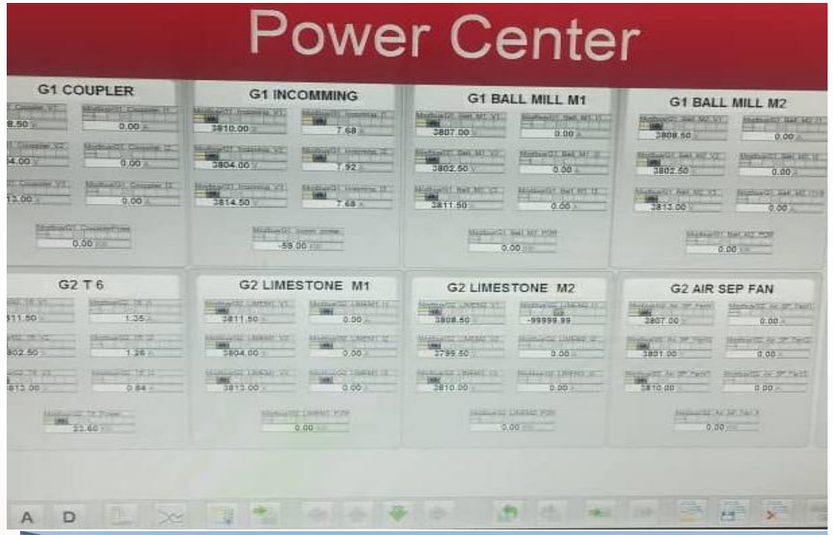
Successful connection with the high-performance Siemens S7-400 Control System using the CP-341 module, ensuring reliable and real-time data exchange.

PCS7 Software Activation

Expert activation of the necessary dongle within PCS7 Software Version 8.01, ensuring full functionality and advanced process control capabilities for the plant.

Enhanced Process Visibility

The new system provides operators with improved visibility and control over critical processes, leading to greater operational efficiency and reduced downtime.



Shahr-e Babak Copper: Consultancy Services

Industrial Automation Expertise

Finso Tech served as a key consultant for Shahr-e Babak Copper Company, delivering strategic guidance and technical expertise across various industrial automation initiatives to drive efficiency and modernization.

Strategic Automation Consultancy

Provided comprehensive consultancy for industrial automation projects, focusing on optimization, development, and digitalization strategies to enhance operational performance.

System Review & Documentation

Advised on project implementation, prepared crucial documentation, and meticulously reviewed existing automation systems to ensure robust and compliant operations.

Deficiency Identification & Procurement Support

Identified critical deficiencies within current control systems and prepared detailed tender documents to streamline future project procurements.

Optimization & Upgrade Recommendations

Delivered actionable recommendations for the strategic optimization and necessary upgrading of existing industrial automation infrastructure, ensuring future readiness.

Sar Cheshmeh Copper: CSM Line Optimization

Commissioning & Production Increase

Finso Tech spearheaded the commissioning and optimization of the CSM Line at Sar Cheshmeh Copper Complex, leading to a significant boost in copper sheet production and operational efficiency.

Enhanced Production Output

Achieved a remarkable 60% production increase of the CSM Machine, significantly boosting copper sheet production capacity.

Siemens Program Modification

Implemented critical modifications to the original Siemens Simatic Manager program, enhancing system functionality and control for the CSM line.

Robotics Team Collaboration

Collaborated closely with the client's robotics team to ensure seamless integration and synchronized operations within the automated production process.

Fail Safe Program Updates

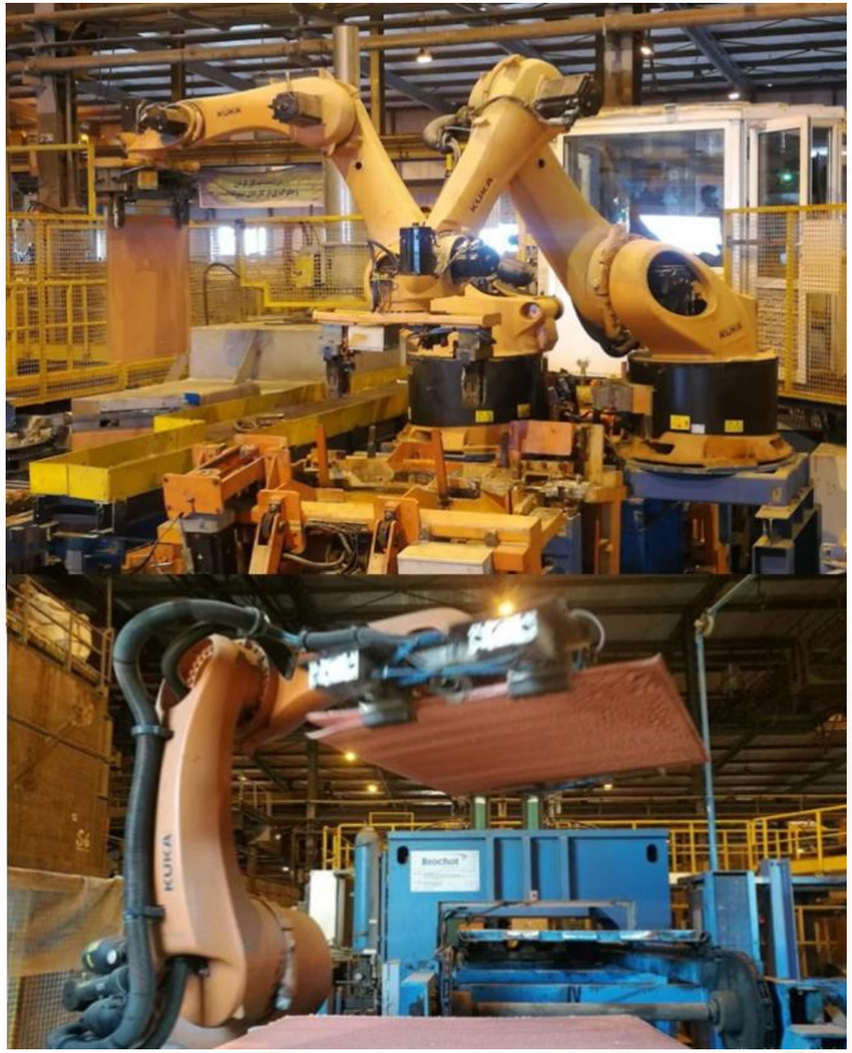
Successfully modified and optimized the Fail Safe program to enhance system reliability and operator safety during complex production sequences.

Operator Interface & Wiring

Added new operator panels and corrected existing wiring issues, improving HMI usability and ensuring robust electrical integrity throughout the line.

Documentation & Drawing Updates

Updated as-built drawings and Process & Instrumentation Diagrams (P&ID) to reflect all modifications and ensure accurate future maintenance and upgrades.



North Khorasan Water Supply: Advanced Telecontrol System

Finso Tech delivered a comprehensive telecontrol and monitoring system for the North Khorasan Water Supply, ensuring seamless operation, advanced data acquisition, and robust communication infrastructure across critical water management assets.

1

Telecontrol System Commissioning

Full commissioning and programming of the overarching telecontrol system for the entire North Khorasan Water Supply network.

2

High-Pressure Tank Control

Commissioned advanced control and monitoring systems for three critical high-pressure water tanks, optimizing water distribution and pressure regulation.

3

Pumping Station Integration

Modified existing programs for six North Khorasan water supply pumping stations, enabling their seamless connection to a centralized server for unified control.

4

Water Treatment Plant Modernization

Successfully modified the control and monitoring system for the North Khorasan (Bojnord) water treatment plant, enhancing operational efficiency and data oversight.

5

Advanced Communication Network

Implemented a new telecontrol server system for robust communication, integrating both wireless (3 km range) and high-speed fiber optic (36 km) links.

Najafabad Biotechnology Research Center

Control & Monitoring System Redesign

Finso Tech led the comprehensive redesign and implementation of an advanced control and monitoring system for the Najafabad Biotechnology Research Center, significantly enhancing the oversight of critical research processes and data integrity.

Enhanced Monitoring of Critical Nodes

Integrated a dedicated monitoring system for 12 sensitive control nodes across the research center, ensuring precise oversight of delicate experiments and critical environmental conditions.

Müller Control System Integration

Successfully integrated and commissioned the Müller Control System, providing robust and reliable automation for key biotechnology research operations and equipment management.

Seamless OPC Connectivity

Utilized both Siemens and Müller OPC (OLE for Process Control) standards to establish seamless, real-time data exchange and communication across diverse control platforms, optimizing system interoperability.

Nasooz Azar: Faist Furnace Control System

Comprehensive Upgrade & Commissioning

Finso Tech delivered a critical overhaul and full commissioning of the Faist Furnace Control System at Nasooz Azar Company, ensuring enhanced operational efficiency and system reliability.

System Upgrade & Modernization

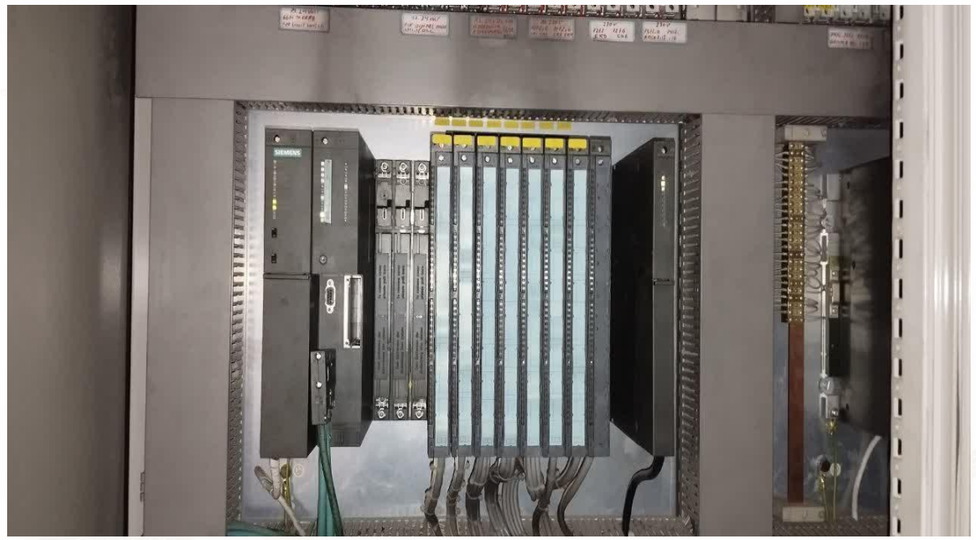
Upgraded the existing furnace control system and associated hydraulic jacks, integrating state-of-the-art technology for improved performance and precision.

Monitoring System Refinement

Modified and optimized the monitoring system to provide real-time data visualization and enhanced oversight of furnace operations, crucial for efficiency and safety.

Robust System Backup

Implemented comprehensive backup solutions for all critical systems, safeguarding operational data and ensuring rapid recovery capabilities.



Mobarakeh Steel: Cyberattack Recovery & TDC Module Troubleshooting

Restoring Critical Operations Post-Cyberattack

Finso Tech provided urgent and comprehensive support to Mobarakeh Steel Company following a cyberattack, focusing on the critical TDC Rolling System to ensure swift recovery and operational stability.

Cyberattack Response & Troubleshooting

Collaborated closely with Mobarakeh Steel to address immediate cyberattack issues and troubleshoot the critical TDC Module within the rolling system.

Siemens CPU Replacement

Identified and replaced several defective Siemens 400S7 CPUs, essential for restoring the integrity and functionality of the control system.

System Configuration & Download

Executed comprehensive hardware and software downloads, followed by meticulous configuration, to rebuild the system to optimal operational parameters.

Critical Spare Parts Supply

Ensured the timely supply of necessary spare parts, minimizing downtime and supporting rapid recovery efforts for the affected infrastructure.

Taraz Sheet Galvanizing Line: Commissioning & Automation

Finso Tech provided specialized expertise for the commissioning, maintenance, and advanced automation of the Taraz Sheet Galvanizing Line in Shahr-e Kord, optimizing production processes and ensuring robust operational control.

End-to-End Line Commissioning

Managed comprehensive commissioning, ongoing maintenance, and critical troubleshooting for the entire galvanizing line, ensuring seamless startup and continuous operation.

FM-458 System Data Oversight

Implemented and managed rigorous monitoring protocols for the FM-458 system data, providing real-time insights for performance optimization and predictive maintenance.

Entry Section Automation

Successfully automated the entry section of the line, enhancing material handling efficiency, reducing manual intervention, and improving overall process flow.

Advanced Rolling Automation & Graph Programming

Developed sophisticated rolling automation solutions and advanced graph programming to fine-tune operational parameters, ensuring precise control and high-quality output for galvanized sheets.

Sarabeleh Wastewater Treatment Plant

Full Automation & Commissioning

Finso Tech delivered end-to-end automation and commissioning services for the Sarabeleh Wastewater Treatment Plant, encompassing design, programming, rigorous testing, and successful startup for optimized operations.

Control Panel Design & Engineering , Wiring termination

Executed detailed design and assembly for PLC and Remote I/O control panels, forming the backbone of the automation system.

Advanced PLC & HMI/SCADA Programming

Developed sophisticated PLC programming and intuitive HMI/SCADA interfaces for comprehensive control and real-time monitoring of the plant.

Rigorous Testing & Validation

Performed extensive FAT, Cold Testing, and SAT to ensure system reliability, functionality, and compliance with all operational requirements.

Plant Commissioning & Startup

Successfully commissioned and started up the entire wastewater treatment plant, bringing all integrated systems to full operational status.

Taft-Yazd Water Supply: Telecontrol System

Advanced Automation & Wireless Communication

Finso Tech partnered with the Taft-Yazd water authority to implement a comprehensive telecontrol system, enhancing the efficiency and reliability of water distribution and treatment through advanced PLC programming and wireless communication solutions.

Wireless Communication Establishment

Collaborated to establish robust wireless communication networks connecting remote wells to the central treatment plant, ensuring real-time data flow and control.

PLC Control Panel Design

Designed and assembled state-of-the-art PLC (Programmable Logic Controller) control panels, forming the core infrastructure for automated water management.

Techomat PLC Programming

Implemented advanced PLC programming using Techomat software, optimizing control logic for pumping stations, filtration processes, and distribution networks.

Zenon HMI/SCADA Design

Developed intuitive HMI/SCADA interfaces using Zenon, providing operators with comprehensive real-time visualization and control over the entire water supply system.

THANK YOU

THE WAY TO GET STARTED IS TO QUIT TALKING AND BEGIN DOING.